In the Specification

Please amend the referenced paragraphs, as follows:

Page 10, paragraph 1:

The correct voltage vs. electrical length using the single segment equivalent of the distributed system shown in Figures 3a and 3b. Referring to Figure 3a, a line 101 illustrates the voltage that is distributed across the inductor 12 and the resulting capacitance. Figure 3b represents the potential difference between the equipotential shield, and eleven segments of the inductor. Figure 3b curve 103 illustrates the voltage being divided into eleven segments ranging from Vd1/2 to -Vd1/2. Using the eleven-lump equivalent of the inductor, and the shield that is driven by a single voltage, one sees that there is only one sub-segment 14 that is driven by the optimum voltage for capacitance cancellation. In addition there are an equal number, [[10]] 5, of sub-segments that are driven with a voltage greater than the correct voltage [[or]] and less than the correct voltage. In Figure 3c calculations show that a single shield such as that of Figure 1 can improve the capacitance cancellation by a weighted average of 73%. Thus, using this single-potential driving method, the overall cancellation of the capacitance is approximately 73%, which means that the overall capacitance between inductor 12 and the shield 100 is reduced 73%. This reduction in the capacitance that the inductor must drive can result in an improvement of its self-resonant frequency by 73%.

Page 11, paragraph 1:

Figures [[6a]] 4 and [[6b]] 5 show that the shield is broken into two portions (300 & 400), whereas the inductor is separated into [[two]] three portions, [[300 and 400]] L1, L2 and L3, in order to obtain the voltages to drive the inputs of the unity-gain amplifiers 23 and 24.

Page 11, paragraph 3:

For a two-segment implementation, the correct driving voltages [[is]] are shown ~~approximated by piece-wise linear steps~~ in Figure 6a as 113 and 115. This implementation is much like that shown in Figure 3a, with the exception that there are two such segments [[for]] of Figure ~~6a and~~ 6b, and the overall error between sub-segments is reduced when compared to the previous one-lump solution of figures 1 and 3. Using the two-lump solution, the amount of capacitance compensation that is obtained is approximately 86%, which amounts to an 86% improvement in self-resonant frequency, and an 86% improvement in maximum operating frequency compared to the prior art solution where the shield is not driven.

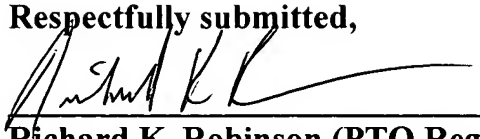
Page 13, paragraph 1:

Figure 10a is a differential half circuit, representative of the schematic shown in

Figure 1. Figure 10b shows an alternative technique to create the appropriate driving voltage for driving a single segment shield. A resistive voltage divider with equal-valued resistors R1 and R2 is shown followed by a unity-gain amplifier. The ac driving voltage is Vd1/2, and is the same potential as previously described by tapping a voltage at the mid-point of the inductor. Because the quality factor of the inductor is dependent upon the resistance of the metal spiral, it may be desirable to utilize every available metal layer in the IC process to create the lowest resistance inductor possible. This approach would create metal spirals with one or more metal levels, each hooked electrically in parallel, thereby reducing the overall resistance of the inductor. Therefore, in order to obtain the lowest resistance, highest-Q inductor, all metal levels are used in creating the spirals, and hence there would not be a free level in order to reach into the inside of the inductor, and bring the tapped voltage out. The resistive divider of Figure 10b can create the right driving potential without having to actually tap the inductor itself, leaving all metal layers available to minimize the resistance. Figure 10c shows a different driving scheme, whereby the gain of the buffer amplifier [[Cs]] A1 is 0.5 V/V. The output of this amplifier can then drive the shield signal ~~right at the inductor, Vd1, is buffered by an~~ directly. In another embodiment, a gain of 0.5 may be obtained by using a unity gain amplifier, which is followed by an attenuator, which in turn can drive the shield. Finally, in Figure 10d, another scheme is shown whereby the inductor is tapped and it drives the shield directly. While not shown, the driving voltage may be

created by some combination of resistive divider and gain of the amplifier. For example, if a source follower amplifier is used, with a gain of 0.9V/V, then a resistive divider with attenuation of 0.555 might be used in order to deliver a driving voltage of Vd1/2 for the single shield shown in Figures 1 or 10.

Respectfully submitted,



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